

Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 0 878 824 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
19.01.2000 Bulletin 2000/03

(51) Int Cl.7: **H01J 37/32**

(43) Date of publication A2:
18.11.1998 Bulletin 1998/47

(21) Application number: **98303196.4**

(22) Date of filing: **24.04.1998**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• **McQuarrie, Andrew Duncan**
San Jose, California 95132 (US)
• **Boman, Lee Campbell**
Belmont, California 94002 (US)

(30) Priority: **13.05.1997 GB 9709659**

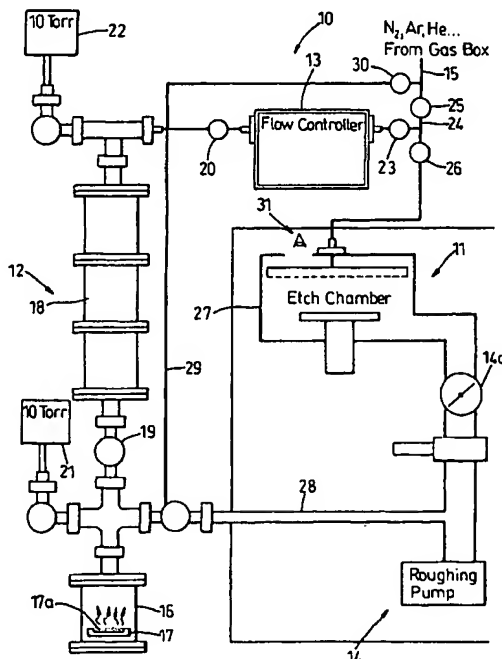
(71) Applicant: **Surface Technology Systems Limited**
Gwent, Wales NP1 9UJ (GB)

(74) Representative:
Dunlop, Brian Kenneth Charles et al
c/o Wynne-Jones, Lainé & James
22 Rodney Road
Cheltenham Gloucestershire GL50 1JJ (GB)

(54) Method and apparatus for etching a workpiece

(57) An XeF_2 source 12 comprises a XeF_2 source chamber 16, which includes a tray or ampoule 17 for XeF_2 crystals 17a, a reservoir 18 via valve 19, a flow controller 13 fed by the reservoir 18 and a valve 20 be-

tween the reservoir 18 and the controller 13. Pressure sources 21 and 22 are provided respectively to maintain the reservoir 18 and the source chamber 16 at the sublimation pressure of XeF_2 . The arrangement allows for a steady supply of XeF_2 to an etching chamber.



EP 0 878 824 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 30 3196

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
E	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) & JP 10 209088 A (MITSUBISHI ELECTRIC CORP), 7 August 1998 (1998-08-07) * abstract *	1-3, 6, 8	H01J37/32
A	PATENT ABSTRACTS OF JAPAN vol. 010, no. 325 (E-451), 6 November 1986 (1986-11-06) & JP 61 134019 A (NEC CORP), 21 June 1986 (1986-06-21) * abstract *	1, 6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H01J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25 November 1999	Examiner Schaub, G
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03/02 (P04001)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 30 3196

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-11-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 10209088 A	07-08-1998	NONE	
JP 61134019 A	21-06-1986	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82